

US Patent No. 6,930,169 August 16, 2005

The term "mutant", as used herein, refers to an amino acid sequence that is altered by one or more amino acids. The mutant may have "conservative" changes, wherein a substituted amino acid has similar structural or chemical properties, e.g., replacement of leucine with isoleucine or a variant may have "nonconservative" changes, e.g., replacement of a glycine with a tryptophan. Similar minor variations may also include amino acid deletions or insertions, or both. Guidance in determining which amino acid residues may be substituted, inserted, or deleted to maintain or abolishing biological or immunological activity may be found using computer programs well known in the art, for example, DNASTAR software.

The term "substitution", as used herein, refers to the replacement of one or more amino acids or nucleotides by different amino acids or nucleotides, respectively.

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Generally, a compound of the present invention is a peptide or peptide analogue which can be 17 amino acids in length. In embodiments wherein the compound is a peptide, the peptide comprises an amino acid sequence that corresponds in primary sequence to an alpha-1 domain of HFE or a portion thereof. In certain embodiments, one or more amino acid residues within the peptide are substituted with other amino acid residues. Typically, such substitutions are conservative, i.e., the amino acid residues are replaced with other amino acid residues having similar physical and/or chemical properties. In embodiments wherein the compound is a peptide analogue, the analogue is obtained by replacing at least one amide linkage in the peptide with a substituted amide or an isostere of amide.

US Patent No. 6,923,968 August 02, 2005

No definition provided.

US Patent No. 6,838,433 January 04, 2005

In particular, preferred changes for analogs in accordance with the present invention are what are known as "conservative" substitutions. Conservative amino acid

substitutions include amino acids replacements with synonymous amino acids within the same group, which have sufficiently similar physiochemical properties that substitution between members of the group will preserve the biological function of the molecule, Grantham, Science Vol. 185, pp. 862-864 (1974).

US Patent No. 6,811,782 November 02, 2004

No definition provided.